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Academic Degrees Earned by Faculty Teaching in Soil Science Programs in the USA

Eric C. Brevik (1) and Karen L. Vaughan (2)

(1) Department of Natural Sciences, Dickinson State University, Dickinson, ND USA (eric.brevik@dickinsonstate.edu), (2) Department of Ecosystem Science and Management, University of Wyoming, Laramie, WY 82071, USA

The interdisciplinary and transdisciplinary nature of soil science noted in the literature lends itself to being studied and taught by a diverse suite of scientists. This study investigates the academic credentials held by faculty teaching in soil science programs at universities in the USA. To identify soil science programs, lists of soil science degree granting institutions developed by the Natural Resources Conservation Service and the Soil Science Society of America were cross-referenced and merged to create a comprehensive list of universities to investigate. This process revealed 76 universities in the USA that offer soil science programs at the B.S., M.S., and/or Ph.D degree level. Departmental websites for these universities were then visited to identify the faculty teaching in their soil science programs. The academic credentials of these faculty were evaluated using: 1) information on the university website, 2) press releases from the universities, and 3) LinkedIn pages maintained by the faculty members. This process identified 536 soil science faculty, with some level of academic credentials collected for 470 (87.7%) of these faculty. This included the B.S. credentials of 439 faculty (81.9%), M.S. credentials of 403 faculty (75.2%), and Ph.D. credentials of 463 faculty (86.4%). At the B.S. level, degrees in Agriculture/Agronomy were most common, with 23% of soil science faculty having credentials in this area. This was followed by Biological Sciences (18%) and Soil Science (15.5%). Other relatively common degree areas included Environmental Sciences/Studies (8.2%), Chemistry (7.5%), Earth and Geosciences (6.2%), Engineering (5.7%), and miscellaneous degrees (5.5%). The miscellaneous category included degrees in subjects such as Art, English, and Philosophy. At the M.S. level, 56.6% of soil science faculty have degrees in Soil Science, followed by Agriculture/Agronomy (13.9%), Biological Sciences (5.7%), and Engineering (5.7%). No other areas represented at least 5% of the M.S. degrees held by soil science faculty, and every subject area saw a decline in representation as compared to B.S. degrees except for Soil Science, which increased by 41.1%, and Engineering, which showed no change. At the Ph.D. level, 66.1% of soil science faculty earned degrees in Soil Science, followed by Biological Sciences (9.7%) and Agriculture/Agronomy (8.6%). A decline in representation was observed in all subject areas as compared to B.S. degrees except for Soil Science (50.6% increase). Even though 2 out of 3 faculty teaching soil science in these programs had a Ph.D. in Soil Science, approximately 26% of the faculty teaching in soil science programs did not have any degrees (B.S., M.S., or Ph.D.) in Soil Science. Instead, their degrees were in related areas such as Biological Sciences, Engineering, Geosciences, etc. This study demonstrates that the faculty teaching in soil science programs in the USA have highly diverse academic backgrounds. This is particularly true at the B.S. level, where only 15.5% of the faculty had a B.S. in Soil Science. The wide range of academic training pursued by people who become soil science faculty is a reflection of the inter- and transdisciplinary nature of soil science.